

The Examiner has continued the rejection of the claims under 35 USC 103(a) for alleged unpatentability over Spencer et al in view of Morini et al based at least in part on the contention that the claimed composition is a product-by-process and that Applicants have allegedly not come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. Applicants respectfully note that only some of the claims are product-by-process claims and that all of the claims read on a composite carrier comprising magnesium halide and silica material having the recited characteristics. Under these circumstances, the Examiner clearly has the initial burden to establish a *prima facie* case of alleged obviousness by, among other things, showing that there is some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine reference teachings to arrive at the claimed invention (see MPEP 706.02(j) and MPEP 2142). As next discussed, Applicants respectfully submit that there is, and can be, no suggestion or motivation to combine the Spencer et al and Morini et al references, as proposed by the Examiner, to arrive at a catalyst carrier comprising a magnesium halide and the claimed silica particles.

The motivation proposed by the Examiner is set forth as follows: “It would have been obvious to one of ordinary skill in the art to modify the catalyst composition of Spencer, et al. to use the activated magnesium halide composition and use the 1,3-diether compound of Morini, et al because the activated magnesium halide and the 1,3-diether exhibit high activity and stereospecificity in the polymerization of olefins.” However, it is known that magnesium halide is not soluble in hydrocarbon solvent or inert liquid medium as used by Spencer, et al., and

magnesium halide can therefore not be used in the method for preparation of the catalyst component according to Spencer, et al. Therefore, it is impossible for those skilled in the art to use the activated magnesium halide of Morini, et al to replace the hydrocarbon soluble organomagnesium alkoxide or dialkoxide described in Spencer et al. In other words, the preparation method for Spencer, et al. excludes the use of magnesium halide. Furthermore, those skilled in the art would not use a solvent capable of dissolving magnesium halide to replace the inert liquid medium in order to overcome the above problem, since this is inconsistent with the object of Spencer, et al., namely, to provide catalyst compositions which exhibit high polymerization efficiencies that are prepared in a manner which do not require the isolation and/or washing of the solid catalyst product (cf. Spencer at col. 5, 1.61-66), because the solvent capable of dissolving magnesium halide, which is generally a polar solvent, would seriously interfere with the polymerization reaction if it were not removed.

It is well-settled that, if the proposed modification or combination of the prior art would render the prior art invention unsuitable for its intended purpose or change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious (MPEP 2143.01). Since, as discussed above, the modification proposed by the Examiner would render Spencer et al unsuitable for its intended purpose, it is respectfully submitted that the references cited by the Examiner cannot be properly combined to set forth even a *prima facie* case of obviousness for the invention as claimed. Accordingly, the rejection of record should be withdrawn for this reason alone.

In addition, the record shows that the claimed invention provides a catalyst component which exhibits high polymerization activity (up to 60KgPP/gCat.) And high bulk density of polymer and by which a polymer having a broader molecular weight distribution (which would provide better processibility) can be obtained (see specification at page 33, lines 17-28). The present invention overcomes the drawbacks of the prior art as discussed in the technical background portion of the description of the application.

Catalysis belongs to a field with results being very difficult to be predicted. Catalysts prepared by different processes might exhibit quite different properties, even though they might have the same or similar composition. This is particularly true for polyolefin catalysts. For example, it is known in the art that there are a number of Ziegler type catalysts for olefin polymerization having very similar composition, but these catalysts might exhibit different properties, such as activity, particle morphology, response to hydrogen, copolymerization performance, etc. The reason is believed to be that the different catalysts prepared by different processes have different structures.

Therefore, those skilled in the art could not have expected a catalyst component as recited in the present claims to have the excellent properties as described in the specification, even if each of the components of the catalyst component might have been present in the prior art. Particularly, considering that neither Spencer, et al. nor Morini, et al. discloses or suggests that a polymer having broad molecular weight distribution can be obtained by using such catalysts, those skilled in the art could not have expect that a polymer having broad molecular

weight distribution could be obtained by using the catalyst component according to the invention as claimed. In fact, the comparison of the Comparative Example 1 (wherein  $M_w/M_n=3.6$ ) and Examples 8 and 12 (wherein  $M_w/M_n=7.1$  and  $7.6$  respectively) described in the instant specification demonstrates that the use of 1,3-diether as electron donor alone cannot give said good results with respect to broader molecular weight distribution.

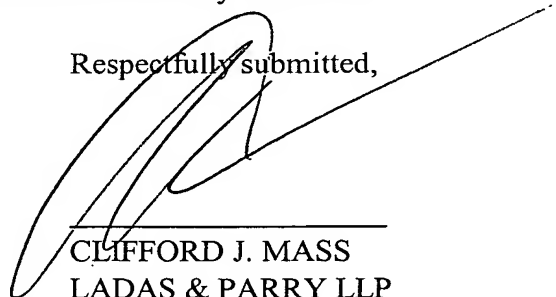
Certainly, neither of the references cited by the Examiner would show or suggest that the claimed catalyst component would have the advantageous properties discussed above, and described and exemplified in the specification. Spencer, et al. (US 6,172,173 B1) disclose a supported transition metal catalyst component which comprises an inert liquid medium having slurried therein a composition comprising the product resulting from contacting (1) a porous solid inorganic oxide support material selected from the group consisting of silica, alumina, or a combination of silica and alumina; (2) a hydrocarbon soluble organomagnesium alkoxide or hydrocarbon soluble organomagnesium dialkoxide; (3) a titanium compound; optionally (4) a vanadium compound; and (5) a Group IIIA metal alkyl halide. All of the embodiments disclosed in the specification suggest that the catalyst component is one used in (co)polymerization of ethylene.

Morini et al. (US 5,723,400) disclose a process for the preparation of a solid catalyst component, comprising reacting a magnesium halide, or a magnesium halide precursor, with a titanium compound and an electron donor compound. Morini et al. have found that if in the preparation of the solid catalyst components one makes at least two successive electron-donor

additions in a proper order, one obtains solid catalyst components capable of conferring to the catalyst obtained from them an improved activity/stereospecificity balance in the polymerization of olefins (see Morini at col. 1, lines 32-38). The embodiments disclosed in the Morini specification suggest that such solid catalyst component would exhibit high activity, high isotacticity, and good hydrogen response when used in (co)polymerization of propylene. However, Morini et al. do not disclose or suggest that a polymer having broad molecular weight distribution can be obtained by using such catalyst.

In view of the above, it is respectfully submitted that the cited references are incompetent to set forth even a *prima facie* case of obviousness for the invention as claimed such that the sole remaining rejection of record should be withdrawn. An early notice of allowance is earnestly solicited and is believed to be fully warranted.

Respectfully submitted,



CLIFFORD J. MASS  
LADAS & PARRY LLP  
26 WEST 61ST STREET  
NEW YORK, NEW YORK 10023  
REG. NO.30,086(212)708-1890